



**United States Environmental Protection Agency
Region 9 Laboratory**

1337 S. 46th Street Building 201
Richmond, CA 94804

Date: 11/24/2017
Subject: Analytical Testing Results - Project R18U01
SDG: 17298E
From: Peter Husby, Director
EPA Region 9 Laboratory
EMD-3-1
To: Lyndsey Tu
Underground Storage Tanks Program Office
LND-4-3

Attached are the results from the analysis of samples from the **Red Hill Tank Farm October 2017 Split Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC: Bob Pallarino, UST Section
Roxanne Kwan, Hawaii DOH

Analyses included in this report:

Anions by Ion Chromatography

Extractable Petroleum Hydrocarbons by
GC/FID

Extractable Petroleum Hydrocarbons (w/silica
gel)



United States Environmental Protection Agency

Region 9 Laboratory

1337 S. 46th Street, Building 201, Richmond, CA 94804

Phone:(510) 412-2300

Fax:(510) 412-2302

Project Manager: Lyndsey Tu

Project Number: R18U01

Project: Red Hill Tank Farm October 2017 Split
Sampling

Underground Storage Tanks Program Office

**75 Hawthorne Street
San Francisco CA, 94105**

SDG: 17298E

Reported: 11/24/17 12:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
DRO Sample A	1710078-01	Water	10/23/17 00:00	10/24/17 12:30
DRO Sample B	1710078-02	Water	10/23/17 00:00	10/24/17 12:30
DRO Sample C	1710078-03	Water	10/23/17 00:00	10/24/17 12:30
NO3 as N Sample E	1710078-05	Water	10/23/17 00:00	10/24/17 12:30

Work Order 1710078

Total Petroleum Hydrocarbons:

Four ampulated performance testing samples were received, marked DRO Sample A - DRO Sample D. The DRO Sample D ampule was inadvertently broken. A replacement ampule for DRO Sample D was received on 10/31/2017 and logged in under work order 1710102. It will be reported separately.

After extraction, the solvent extract for each sample was split and one portion received silica gel clean-up. Both fractions were run and are reported.



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Project Number: R18U01	75 Hawthorne Street	Reported: 11/24/17 12:54
Project: Red Hill Tank Farm October 2017 Split Sampling	San Francisco CA, 94105	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1710078-01						Water - Sampled: 10/23/17 00:00			
Sample ID: DRO Sample A						Extractable Petroleum Hydrocarbons			
TPH - Diesel Range Organics		3,100	F4	150	ug/L	B17J147	10/27/17	11/02/17	8015C
TPH - Oil Range Organics		ND	U	600	"	"	"	"	8015C
<i>Surrogate: Hexacosane</i>			87 %	47-130%		"	"	"	
Sample ID: DRO Sample A						Extractable Petroleum Hydrocarbons with Silica Gel Cleanup			
TPH - Diesel Range Organics		2,500	F4	150	"	"	"	11/02/17	8015C
TPH - Oil Range Organics		ND	U	600	"	"	"	"	8015C
<i>Surrogate: Hexacosane</i>			78 %	47-130%		"	"	"	
Lab ID: 1710078-02						Water - Sampled: 10/23/17 00:00			
Sample ID: DRO Sample B						Extractable Petroleum Hydrocarbons			
TPH - Diesel Range Organics		3,700	F4	150	ug/L	B17J147	10/27/17	11/02/17	8015C
TPH - Oil Range Organics		ND	U	600	"	"	"	"	8015C
<i>Surrogate: Hexacosane</i>			92 %	47-130%		"	"	"	
Sample ID: DRO Sample B						Extractable Petroleum Hydrocarbons with Silica Gel Cleanup			
TPH - Diesel Range Organics		2,900	F4	150	"	"	"	11/02/17	8015C
TPH - Oil Range Organics		ND	U	600	"	"	"	"	8015C
<i>Surrogate: Hexacosane</i>			73 %	47-130%		"	"	"	
Lab ID: 1710078-03						Water - Sampled: 10/23/17 00:00			
Sample ID: DRO Sample C						Extractable Petroleum Hydrocarbons			
TPH - Diesel Range Organics		2,400	F4	150	ug/L	B17J147	10/27/17	11/02/17	8015C
TPH - Oil Range Organics		ND	U	600	"	"	"	"	8015C
<i>Surrogate: Hexacosane</i>			94 %	47-130%		"	"	"	
Sample ID: DRO Sample C						Extractable Petroleum Hydrocarbons with Silica Gel Cleanup			
TPH - Diesel Range Organics		1,900	F4	150	"	"	"	11/02/17	8015C
TPH - Oil Range Organics		ND	U	600	"	"	"	"	8015C
<i>Surrogate: Hexacosane</i>			78 %	47-130%		"	"	"	
Lab ID: 1710078-05						Water - Sampled: 10/23/17 00:00			
Sample ID: NO3 as N Sample E						Conventional Chemistry Parameters by APHA/EPA Methods			
Nitrate as N		4.7		0.10	mg/L	B17J165	10/31/17	10/31/17	300.0



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Project Number: R18U01	75 Hawthorne Street	Reported: 11/24/17 12:54
Project: Red Hill Tank Farm October 2017 Split Sampling	San Francisco CA, 94105	

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
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Batch B17J147 - 3520C CLLE - TPH - Extractable

Prepared: 10/27/17 Analyzed: 11/02/17
Extractable Petroleum Hydrocarbons - Quality Control

Blank (B17J147-BLK1)

TPH - Diesel Range Organics	160			150 ug/L						
TPH - Oil Range Organics	ND	U		600 "						

<i>Surrogate: Hexacosane</i>	<i>131</i>			<i>"</i>	<i>150</i>		<i>87</i>	<i>47-130</i>		
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LCS (B17J147-BS1)

TPH - Diesel Range Organics	1,290			150 ug/L	1500		86	59-109		
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<i>Surrogate: Hexacosane</i>	<i>123</i>			<i>"</i>	<i>150</i>		<i>82</i>	<i>47-130</i>		
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Batch B17J147 - 3520C CLLE - TPH-Extractable SGC

Prepared: 10/27/17 Analyzed: 11/02/17
Extractable Petroleum Hydrocarbons with Silica Gel Cleanup - Quality Control

Blank (B17J147-BLK1)

TPH - Diesel Range Organics	ND	U		150 ug/L						
TPH - Oil Range Organics	ND	U		600 "						

<i>Surrogate: Hexacosane</i>	<i>115</i>			<i>"</i>	<i>150</i>		<i>77</i>	<i>47-130</i>		
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LCS (B17J147-BS1)

TPH - Diesel Range Organics	969			150 ug/L	1500		65	59-109		
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<i>Surrogate: Hexacosane</i>	<i>110</i>			<i>"</i>	<i>150</i>		<i>74</i>	<i>47-130</i>		
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Batch B17J165 - - General Inorganic - Anions

Prepared & Analyzed: 10/31/17
Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Blank (B17J165-BLK1)

Nitrate as N	ND	U		0.1 mg/L						
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Blank (B17J165-BLK2)

Nitrate as N	ND	U		0.1 mg/L						
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LCS (B17J165-BS1)

Fluoride	0.965			mg/L	1.00		96	90-110		
Chloride	9.34			"	10.0		93	90-110		
Nitrate as N	4.74			"	5.00		95	90-110		
Sulfate	9.61			"	10.0		96	90-110		



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Qualifiers and Comments

F4 Fuel Type: Diesel Fuel

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.